DOCUMENT RESUME

ED 387 032 HE 028 613

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TITLE Assessing Dispositional Coping Strategies in College Students: A Domain-Specific Measure.
PUB DATE 22 Apr 95
NOTE 16p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, CA, April 18-22, 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; College Students; *Coping; Higher Education; *Measurement Techniques; Research Methodology; *Stress Management; Student Attitudes; Student Motivation; *Test Construction; Test Reliability; Test Validity

ABSTRACT

Two studies were conducted to develop an academic specific measure of college students' coping styles and to examine the relationship among student stress, coping style, motivation, and performance in a field setting. The measure of student coping style, the SCOPE instrument, included important academic coping strategies. For the first study, participants were 515 introductory psychology college students who were asked to imagine themselves doing poorly on a test. Then they responded to several measures including SCOPE. With these responses the SCOPE was refined to demonstrate acceptable internal consistency and psychological construct validity. For the second longitudinal study, 170 introductory psychology students imagined they were doing poorly, responded to SCOPE and other measures, and reported on their stress about their performance in their introductory psychology course and their future academic motivation, and how they regarded the importance of doing well in the course. These data were compared with students' actual grades at the end of the academic year. Results indicated that SCOPE demonstrated reliability and validity and that students' coping style relate to their motivation and performance. In addition, the relationship between stress and performance is in part buffered by students' academic coping style and motivation. (JB)

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ED 387 032

Assessing Dispositional Coping Strategies in College Students: A Domain-Specific Measure

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AERA, San Francisco, 1995

This research was supported by Social Sciences and Humanities Research Council of Canada (SSHRCC) Doctoral Fellowships to the first, third, fourth, and sixth authors, a University of Manitoba Doctoral Fellowship to the first author, a SSHRCC Postdoctoral Fellowship to the first author, and a SSHRCC Research Grant (#410911296) to the second author. The authors gratefully acknowledge the assistance of the Higher Education Research Group in collecting the data.
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HE 027 613

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Introduction

College students face many challenges in pursuit of their academic goals. When they are perceived as negative and stressful, these experiences can have adverse effects on some students' motivation and performance. In contrast, other students have an amazing capacity to withstand the deleterious consequences of such experiences. These students are easily encouraged and generally regard poor performances as temporary and surmountable. One variable proposed to account for such motivational and performance diversity is students' coping style (Aspinwall & Taylor, 1992; Carver, Scheier, & Weintraub, 1989; Terry, 1994).

Coping style refers to one's general tendency to manage or alter negative stressful events by thinking and acting in a particular manner. Research indicates that people routinely respond to negative stressful events and ensuing states in a series of stages. One of the most influential three-stage processes describing individuals' responses to such events was proposed by Folkman and Lazarus (1985): primary appraisal or realizing a threat; secondary appraisal or

bringing to mind the potential responses that can be made; and coping or the execution of a coping response. Embedded in this process are two forms of coping: problem focused coping (PFC) and emotion focused coping (EFC). Problem focused coping involves thoughts, actions, and strategies directed toward altering the source of the stressful event. Emotion focused coping involves thoughts, actions, and strategies geared toward the management of the emotional distress associated with a stressful event. Researchers using this model have clarified how individuals cope, however, they have predominantly focused on situational determinants of coping rather than identifying variables that may predispose an individual to certain coping strategies in a particular situation.

To examine coping styles, Carver et al. (1989) developed COPE, a theoretically driven, multidimensional coping scale. This perspective is important because coping responses have many dimensions which may have implications for how one successfully copes. Carver et al. found a moderate correlation between students' dispositional coping styles and subsequent reports of situation specific coping

efforts. This approach has added considerably to the literature, however, COPE may be too general for an academic setting thereby limiting its predictive power. Two studies were conducted. The purpose of the first study was to develop an academic-specific measure of college students' coping style which would include important academic-coping strategies such as taking effective notes and using different study strategies. The purpose of the second study was to examine the relationship among students' stress, coping style, motivation, and performance in a field setting.

Study 1

Subjects

The participants were 515 introductory psychology college students.

Materials and Procedures

Students responded to a questionnaire containing several measures in addition to the student coping scale. The students were asked to take a moment to imagine themselves doing poorly on a test at university. Next they responded to the SCOPE scale and the other measures. See Table 1 for the SCOPE items.

Table 1
Student Coping (SCOPE) Subscales, Factor Loadings ( ), and Alphas

Problem Focus Coping (PFC α=.80)
(1) Academic Planning
I think about how I might best handle the problem (.87)
I make a plan of action (.87)
I try to come up with a strategy about what to do (.85)
I think hard about what steps to take (.83)
(2) General Active Coping
I do what has to be done one step at a time (.73)
I concentrate my efforts on doing something about it (.72)
I think about the reason(s) why the situation occurred (.72)
I take additional action to try to get rid of the problem (.52)
(3) Efficacy
I feel confident (.79)
I feel competent (.73)
I feel hopeful (.55)
I feel motivated (.43)
(4) Specific Active Coping
I buy a study guide (.86)
I use my study guide (.85)
I try a different study technique (.62)
Emotion Focused Coping (EFC α=.70)
(1) General Emotional Support
I discuss my feelings with someone (.87)
I try to get emotional support from friends and family (.86)
I talk to someone about how I feel (.82)
(2) Denial
I act as though it hasn't happened (.78)
I say to myself "this isn't real" (.71)
I refuse to believe that it happened (.70)
I pretend that it hasn't really happened (.70)
(3) Emotional venting
I let my feelings out (.85)
I get upset an let my emotions out (.82)
I feel a lot of emotional distress and I find myself expressing those feelings (.71)
I get upset and am really aware of it (.34)*
(4) Academic Behavioral Disengagement
I drop out of the class I'm doing poorly in (.70)
I skip class (.69)
I reduce the amount of effort I put in to solving the problem (.62)
I give up trying to reach my goal (.48)
SCOPE TOTAL α=.80

INSTRUCTIONS: Students are instructed to take a moment to imagine themselves doing poorly on a test at school/university. Next, students respond to SCOPE with the items presented in a random order. The students respond to the SCOPE scale based on the following prime: When I do poorly on an important test at school/University, typically...
NOTE: * item loading below .40 but retained for practical reasons

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Responses to the items were made on a 10-point likert-type scale ranging from (1) extremely uncharacteristic to (10) extremely characteristic.

Results

In the development of this scale, which was labelled SCOPE, an acronym for Student Coping Scale, a typical process of scale refinement was undertaken. This process involved a larger group of items (95) which was factor analyzed and consequently reduced due to weak factor loadings and theoretical and conceptual limitations. For the purpose of Study 1, a factor analysis with a principal component extraction and varimax rotation was performed on 48 items. Ten factors emerged that were identified as important. One unexpected finding was that a single factor (Factor 1) incorporated what was anticipated to be two separate factors, Academic Planning and General Active Coping. Consequently, Factor 1 was divided into two separate factors leaving 11 subscales based on theory, logic, and factor loadings greater than .40.

Subsequently, based on the same data, the items in each subscale were summed and subjected to a second order factor analysis. Based on the literature, three

higher order factors were expected to emanate: Active or Problem Focused Coping (PFC) included scales labelled Academic Planning, General Active Coping, Efficacy, Active Study Coping; Emotion Focused Coping (EFC) included scales labelled General Emotional Support, Seeking Academic Support, Emotional Venting; and Avoidant Focused Coping (AFC) included scales labelled Behavioral Disengagement, Denial, Restraint Coping, Substance Abuse Coping. Although a three factor solution emerged, two factors were interpretable. Factor 1, which was labelled Problem Focused Coping (PFC) consisted of four subscales: General Active Coping, Academic Planning, Efficacy, and Active Study Coping. Factor 2 was labelled Emotion Focused Coping (EFC) and consisted of two emotion focused (Emotional Venting, General Emotional Support) and two avoidant focused (Denial, Behavioral Disengagement) subscales.

The reliability of SCOPE was within acceptable limits, overall α=.80, PFC α=.80, EFC α=.70. SCOPE also demonstrated construct validity with PFC correlating positively with optimism (r=.51, Scheier & Carver, 1985, LOT) and inversely with stress (r=-.31,

Cohen, Kamarck, & Mermelstein, 1983, PSS). Emotion Focused Coping correlated positively with optimism (r=.19) and inversely with stress (r=-.12).

In sum, based on a typical scale development and refinement process, SCOPE was reduced from 95 theoretically, logically, and statistically derived items to 48. Based on a factor analysis, these 48 items were configured into 11 subscales which were further reduced by a second order factor analysis into two ways of coping, each consisting of 15 items: PFC and EFC. The total SCOPE scale and its subscales demonstrated acceptable internal consistency. Moreover, as expected, PFC and EFC correlated positively with related psychological constructs and inversely with unrelated psychological constructs demonstrating construct validity. Study 2 examined the relationship among students' academic stress, academic coping style, academic motivation, and course grade.

Study 2

Subjects

The participants were 170 introductory psychology college students.

Materials and Procedures

The study was longitudinal with students responding to a questionnaire containing several measures in addition to SCOPE (Time 1). The students were asked to take a moment to imagine themselves doing poorly on a test at school/university and then to respond to the SCOPE scale (PFC M=72.92, SD=18.07, EFC M=55.23, SD=13.92). Next students' self-reported stress about their performance in their introductory psychology course (measured by summing three items including how worried, helpless, and stressed students felt about their performance in their introductory psychology course, M=6.96, SD=5.44, α=.84) and their future academic motivation [measure by summing 3 items including how well students expected and how important (2 items) it was for students to do well in their introductory psychology course, M=11.68, SD=10.19, α=.98] were measured. At the end of the academic year, students' actual course grades (%) were obtained from their course instructors (M=71.72%, SD=10.35, Time 2).

Results

The degree and direction of the relationship among the variables was tested using Bentler's (1993) EQS

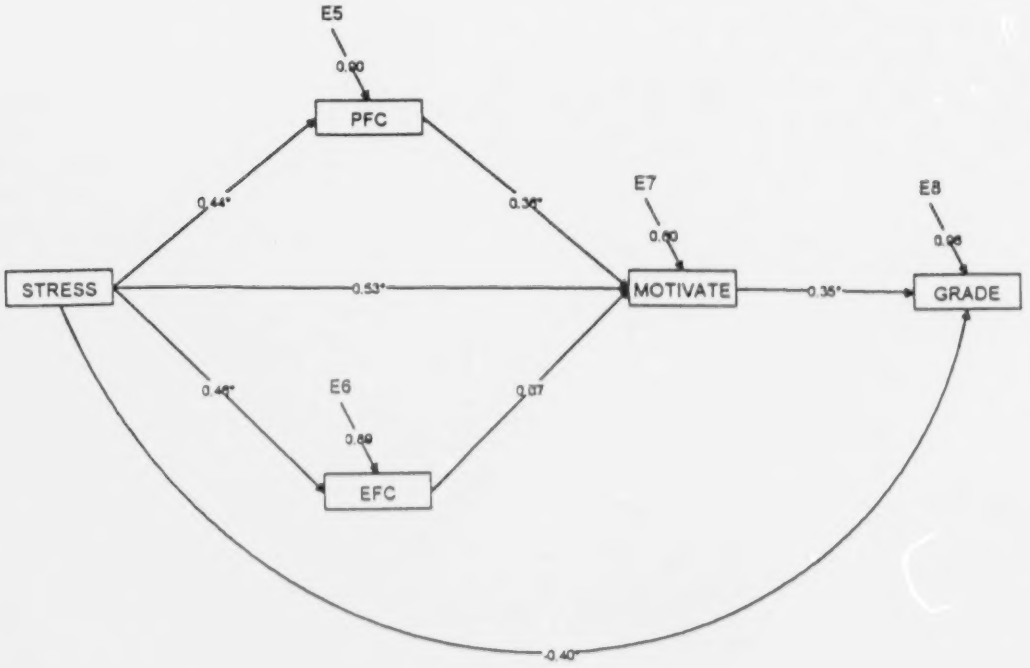
program for covariance structure analysis. An a priori structural equation model was used to test the relationship between stress and performance and how the relationship was mediated by students' coping style and motivation. See Figure 1 for the model tested and zero-order correlations among the variables.

All predicted paths had significant correlation coefficients. Because PFC and EFC were correlated, their errors were allowed to intercorrelate, however, this produced an uninterpretable solution. Consequently, this relationship was not specified in the model. Standardized Beta coefficients were estimated using the Maximum Likelihood procedure. Bentler's (1990) Comparative Fit Index (CFI) was used to evaluate the fit of the data to the model. The CFI ranges from 0 to 1 and compares the measured model to a continuum of models ranging from the null (variable are unrelated) to the saturated model (all variables are related). The CFI for our model was CFI=.995, a value of 1 indicates a perfect fit of the data to the model. The fit of the data to the model was supported by a nonsignificant χ^2=4.19, p=.242, df=3.

As can be seen in Figure 1, college students'

stress at the beginning of the academic year (Time 1) directly and positively predicted their use of PFC (β=0.44) and EFC (β=0.45), their motivation (β=0.53), and inversely predicted their introductory psychology course grade at the end of the academic year (β=-0.40, Time 2). Additional direct positive relationships emerged between PFC and motivation (β=0.36) and motivation and grade (β=0.35). These relationships accounted for meaningful proportions of variance in motivation (64%) and grade (8%). A nonsignificant path was found between EFC and motivation (β=.07, $p>.05$) suggesting a small relationship between students' EFC style and their motivation at the beginning of the academic year.

Figure 1 Path Diagram For College Students' Stress, Coping Style, Motivation, and Grade



X^2=4.19, p = .242
NFI=.984
CFI=.995
df=3
Variables=5
Method of Estimation=ML
N=170

Standardized Beta Coefficients
*=p< .05

Zero Order Correlations

	S	P	E	M	G
Stress	1.000				
PFC	0.443	1.000			
EFC	0.458	0.275	1.000		
Motivation	0.725	0.619	0.415	1.000	
Grade	-0.148	0.100	0.047	0.059	1.000

KEY: Stress=stress about academic performance
PFC=Problem Focused Coping (SCOPE)
EFC=Emotion Focused Coping (SCOPE)
Motivation=academic motivation
Grade=course grade (%) in introductory psychology

Discussion

The purpose of this research was to develop a domain-specific measure of college students' coping style and to examine its capacity to predict students' subsequent motivation and performance. Results from the two studies indicate that SCOPE demonstrates acceptable reliability and validity and that students' coping style relates to their motivation and performance. Specifically, these data show that college students' stress at the beginning of the academic year inversely predict their grade in introductory psychology. However, these data also show that this relationship between stress and performance is, in part, buffered by students' academic coping style and motivation.

Given that college students will face many challenges throughout their higher education that will influence the fulfilment of their goals, it is important to understand how they will or will not manage these challenges. Understanding students' coping could lead to changes in instruction and classroom management. For instance, professors may make themselves more available after lectures so that

students can approach them for help. Understanding students' coping could also lead to the provision of a remedial intervention to assist ineffective copers who are at-risk. Since coping is characterized by thoughts and strategies used by individuals to reduce the effects of negative events, interventions such as attributional retraining or strategy training would be important avenues to consider for future research and practice.

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